

**REMARKS**

**I. Status of the Claims**

Claims 1, 3-40, and 42-58 are pending. Claims 2 and 41 are cancelled. Claims 4, 6-11, 21-39 and 48-58 stand as withdrawn from consideration by the Examiner. No claims are amended herein.

**II. Rejection under 35 U.S.C. § 102(b)**

Claims 1, 3, 5, 16, 17, 40, 42, 45, and 46 stand rejected by the Examiner as anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 4,316,930 to Stengle, Jr. ("Stengle"). Office Action, page 2. Applicants respectfully traverse this rejection for at least the following reasons.

To establish a prima facie case of anticipation under 35 U.S.C § 102, the Examiner must demonstrate that a cited reference teaches each and every claim limitation. See M.P.E.P § 2141. A claim is anticipated under § 102 only if each and every element, as set forth in the claim, is found in a single prior art reference. M.P.E.P. § 2131.

With the above in mind, the examiner is respectfully directed to independent claims 1 and 40, which recite:

1. A reinforced laminate adapted for an electronic support, the laminate comprising: (a) a matrix material; and (b) at least one non-degreased fabric comprising at least one strand comprising a plurality of fibers, wherein at least a portion of the fabric has a resin compatible coating which is compatible with the matrix material in the reinforced laminate adapted for the electronic support, and the resin compatible coating comprises a plurality of particles.

40. An electronic support comprising (a) at least one non-degreased fabric comprising at least one strand comprising

a plurality of fibers, wherein at least a portion of the fabric has a resin compatible coating which is compatible with a matrix material; and (b) at least one matrix material on at least a portion of the at least one fabric; wherein the resin compatible coating comprises a plurality of particles.

Thus, claims 1 and 40 recite, *inter alia*: 1) a matrix material; and 2) a non-degreased fabric, wherein at least a portion of the fabric has a resin compatible coating that is compatible with the matrix material and comprises a plurality of particles.

In the Office Action, the Examiner asserts that Stengle teaches a reinforced laminate comprising a woven fabric having a coating thereon, wherein the coating comprises a resin, e.g., silicone, and a filler material, e.g., graphite. Office Action, pages 2-2. Further, the Examiner asserts that Stengle teaches that the reinforced laminate may be mounted to a backing material. *Id.* at 2. Noting that the term “matrix” is broad, the Examiner asserts that the backing material of Stengle is equivalent to the matrix material recited in the present claims. *Id.* at 2-3. From this, the Examiner concludes that Stengle anticipates the limitations of claims 1, 3, 5, 16, 17, 40, 42, 45, and 46. *Id.* Applicants respectfully disagree.

The Examiner’s argument is predicated on the erroneous assertion that the backing material disclosed in Stengle is equivalent to the claimed “matrix material.” Applicants submit that, contrary to the Examiner’s assertion, one of ordinary skill in the art of coating technology and reinforced laminates would recognize that a “matrix material,” as recited in the present claims, is different from the backing disclosed in Stengle. Applicants submit that one of ordinary skill in the art of coating technology and reinforced laminates would readily appreciate that the term “matrix” refers to a substance within which something else is incorporated into. Applicants direct the

Examiner to page 2, lines 28-30 of the specification as filed, which states that “[t]his invention relates generally to coated fiber strands for reinforcing composites and, more specifically, to coated fiber strands that are compatible with a matrix material that the strands are incorporated into.” Specification as filed, page 2, lines 28-30 (emphasis added).

In view of the description of the term, “matrix” in the present specification, Applicants respectfully submit that one of ordinary skill in the art would not consider the backing material disclosed in Stengle to be a matrix material. Indeed, the backing material of Stengle is disclosed to be “a rigid base plate, such as a cast steel plate,” that is “attached to the reinforced laminate. See, Stengle, column 7, lines 4-6. In view of this teaching, Applicants submit that if anything, Stengle teaches away from the assertion that a backing material is equivalent to the claimed matrix material, since nothing could be “incorporated into” a cast steel plate.

Thus, Applicants submit that the Examiner has failed to establish that Stengle teaches all of the limitations of Claims 1, 3, 5, 16, 17, 40, 42, 45, and 46. Specifically, the Examiner has failed to establish that Stengle teaches the claimed matrix material. Accordingly, the Examiner’s rejection of these claims as anticipated under 35 U.S.C. §102(b) by Stengle is improper, and should be withdrawn.

### **III. Rejection under 35 U.S.C. §102(b)/103(a)**

Claims 13, 18, and 47 stand rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over Stengle. Office Action, page 3. Applicants respectfully traverse this rejection for substantially the same reasons set forth above in section II. Specifically, Applicants maintain that Stengle fails

to teach the claimed matrix material. The Examiner's arguments with respect to claims 13, 18, and 47 do not cure this deficiency. Thus, as the Examiner has failed to establish that Stengle teaches or suggests all of the claim limitations, the rejection of claims 13, 18, and 47 as anticipated by, or, in the alternative, as obvious over Stengle is improper, and should be withdrawn.

#### **IV. Rejections Under 35 U.S.C. §103(a)**

##### **a. Nagamine in view of Adolfovna**

Claims 1, 3, 5, 12-20, 40, and 42-47 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Japanese Patent Publication No. 1-249333 ("Nagamine") in view of Russian Patent Publication No. 2072121 ("Adolfovna") for the reasons set forth at pages 4-6 of the Office Action. Applicants respectfully traverse this rejection for at least the following reasons.

As an initial matter, Applicants note that the rejection of claims 1, 3, 5, 12-20, 40, and 42-47 asserted in this Office Action is substantially the same as the rejection tendered by the Examiner on pages 2 through 4 of the Office Action dated November 19, 2003 and reiterated in the Office Action dated June 3, 2004. This argument was modified by the Examiner in the Office Action dated March 24, 2005 in response to Applicant's March 3, 2005 Amendment and Reply. This modified rejection referenced a third document, PCT Publication 99/44956 (later determined to be inapplicable as prior art) in addition to Nagamine and Adolfovna. The Examiner employed the WO reference as evidence that one of ordinary skill in the art would have been motivated with a reasonable expectation of success to combine teachings regarding basalt fiber laminates, such as those utilized in Adolfovna with teachings regarding other glass

fibers, such as those used in Nagamine. See, Office Action dated March 24, 2005, page 4.

In the present Office Action, the Examiner withdraws reliance on the WO reference, and once again argues that Nagamine as modified by Adolfovna alone renders claims 1, 3, 5, 12-20, 40, and 42-47 prima facie obvious. Office Action, pages 4-6. Applicants respectfully disagree with this Argument for the reasons of record, as set forth on pages 12-16 of the Reply dated March 3, 2005. For example, Applicants maintain that the disclosure of Nagamine and Adolfovna are limited to the different fabric sheets disclosed in each reference: Adolfovna discloses only basalt fabric sheets, which are structurally different from glass fabric sheets, which are the only fabric sheets disclosed in Nagamine. Based on these divergent and limited disclosures, Applicants submit that one of ordinary skill in the art would not have been motivated to combine these references in the manner asserted by the Examiner.

Additionally, while the Examiner relies upon Nagamine to disclose a sizing coating that does not require degreasing or surface treatment, the Examiner dismisses the fact that Adolfovna fails to disclose any such "non-desizing coating." In fact, the disclosure relied upon by the Examiner in Adolfovna is directed to a polymeric matrix, rather than any sizing coating on fibers. Simply put, the two references are directed to different components: Nagamine is directed to a sizing coating, while Adolfovna is directed to a polymeric matrix. Based at least on the different functions of these separate components, one of ordinary skill in the art would not have been led to take a component from the polymeric matrix of Adolfovna and incorporated it into the sizing agent of Nagamine.

Further, Applicants submit that the language utilized in the present Office Action evinces that the Examiner is incorrectly interpreting the claim language to include the possibility that the claimed resin compatible material and matrix material are not mutually exclusive. This argument flows from the Examiner's assertion that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify *the impregnant* composition of Nagamine by including particulate material... as taught by Adolfovna with the reasonable expectation of obtaining a prepreg suitable for electronic supports and having good dielectric properties and heat resistance." *Id.* at 5 (emphasis added).

If the combination asserted by the Examiner were performed, Applicants believe that the resultant composition would include fabric comprising glass fibers having a non-sized size coating, wherein the fabric is impregnated with an impregnating composition that includes boron nitride particles. By stating that this combination reads on the present claims, the Examiner asserts that the modified impregnating agent utilized in the combination of Nagamine and Adolfovna is equivalent to the claimed resin compatible coating. This argument is inconsistent with the claim language, as discussed below.

Claims 1 and 40 recite, *inter alia*: 1) a matrix material; and 2) a non-degreased fabric, wherein at least a portion of the fabric has a **resin compatible coating that is compatible with the matrix material and comprises a plurality of particles**. Claims 1 and 40 (emphasis added). As indicated in the specification as filed, the term, "resin compatible," means that a coating composition that is applied to the fibers is compatible with the matrix material into which the fibers will be incorporated, such that the coating

composition: a) does not require removal prior to incorporation in the matrix; b) facilitates good wet out; or c) imparts desirable physical properties. Specification as filed, pages 12-13. This, in combination with the fact that the claims recite the matrix material and resin compatible coating as distinct components, clearly indicate that the resin compatible coating and the matrix material are *mutually exclusive* from one another (emphasis added).

The Examiner's argument, however, evinces just such an interpretation. Applicants submit, however, that this interpretation is inconsistent with the claim language, as it effectively renders the claim language requiring the presence of a resin compatible coating meaningless. Specifically, if the matrix material and resin compatible coating are interpreted as not being mutually exclusive, no language distinctly requiring the presence of a resin compatible coating that is compatible with matrix would be required. In view of this fact, Applicants submit that Examiner's interpretation of the claims is impermissible.

Accordingly, as the combination of Nagamine with Adolfovna fails to teach all of the limitations of the claims, the rejection of claims 1, 3, 5, 12-20, 40, and 42-47 under 35 U.S.C. §103(a) as being unpatentable over these references is improper, and should be withdrawn.

**b. Nagamine in view of Iketani**

Claims 1, 3, 5, 17, 40, 42, and 46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nagamine in view of Japanese Patent Publication No. 04-307787 ("Iketani") for the reasons disclosed at page 6 of the Office Action. Specifically, the Examiner asserts that it would have been obvious to one of ordinary

skill in the art to “modify the teachings of Nagamine by including particulate material *in the impregnate* with a reasonable expectation of success.” Office Action, page 6 (emphasis added). Applicants respectfully traverse this rejection for substantially the same reasons as set forth in section III(a).

Specifically, Applicants once again assert that the Examiner’s argument reflects a fundamental mischaracterization of the claim language. The Examiner’s argument that it would be obvious to modify the *impregnate* of Nagamine by including the particles disclosed by Iketani indicates that the Examiner considers the impregnate of Nagamine to be equivalent to the claimed resin compatible coating. As discussed above, this interpretation is impermissible. Contrary to the Examiners interpretation, the claimed resin compatible coating and matrix material are mutually exclusive. With this in mind, the combination of Nagamine with Iketani clearly **does not** teach all of the limitations of the claims. Specifically, **neither Nagamine nor Iketani, either alone or in combination, teach the claimed resin compatible coating containing a plurality of particles.**

Accordingly, as the combination of Nagamine with Iketani fails to teach all of the claim limitations, the rejection of claims 1, 3, 5, 17, 40, 42, and 46 as unpatentable under 35 U.S.C. §103(a) in view of these references is improper, and should be withdrawn.



**IV. Conclusion**

In view of the foregoing remarks, Applicants respectfully submit that the present application is not anticipated by or rendered obvious in view of the references cited against it. Applicants respectfully request the Examiner's reconsideration of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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Dated: April 19, 2006

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